

Tb/12CS

Tonkani District
Common First Revision Test - January 2025



Standard 12
COMPUTER SCIENCE

Time Allowed: 3.00 Hours

Maximum Marks: 70

Part - I**I. Choose the best answer:****15×1=15**

- 1) The variables in a function definition are called as
a) Subroutines b) Function c) Defenition d) Parameters
- 2) Which of the following will retrieve information from the data type?
a) Recursive b) Constructors c) Nested d) Selectors
- 3) Which key is pressed to execute Python Script?
a) F1 b) F5 c) F3 d) F2
- 4) The two main factors which decide the efficiency of an algorithm as _____
a) Processor and Memory b) Complexity and Capacity
c) Time and Space d) Data and Space
- 5) "elif" can be considered to be the abbreviation of
a) nested if b) if else c) else if d) if elif
- 6) The operator which is used for concatenation
a) * b) + c) = d) &
- 7) Which function is called as anonymous un-named function?
a) Recursion b) Lambda c) Define d) Built-in
- 8) _____ is used placeholders or replacement fields which get replaced along with format () function.
a) % b) < > c) ++ d) ^^
- 9) Pick odd one in connection with collection data type.
a) List b) Tuple c) Dictionary d) Loop
- 10) The process of creating an object is called as
a) Constructor b) Destructor c) Initialize d) Instantiation
- 11) Queries can be generated using
a) SELECT b) ORDER BY c) MODIFY d) ALTER
- 12) The expansion of CRLF is
a) Control Router and Line Feed b) Control Return and Link Feed
c) Carriage Return and Line Feed d) Carriage Return and Form Feed
- 13) A framework for interfacing Python and C++ is
a) Cython b) Ctypes c) Boost d) SWIG
- 14) Which of the following module should be imported to visualize and information in Python?
a) csv b) getopt c) mysql d) matplotlib
- 15) Which SQL function returns the number of rows in a table?
a) sum () b) max () c) CHECK () d) COUNT ()

Part - II**II. Answer any six of the following. Question No. 24 is compulsory: 6×2=12**

- 16) Define Constructors and Selectors.
- 17) Define Global Scope.
- 18) Write the different types of function.

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- 19) Define control structure.
- 20) What is instantiation?
- 21) What is the difference between SQL and MySQL?
- 22) Differentiate the unique and primary key constraint.
- 23) Write the applications of scripting languages.
- 24) What will be the output of the following python snippet?

```
str1 = "COMPUTER"
print (str1 [4:])
print (str1 [::3])
```

Part - III**III. Answer any six of the following. Question No. 33 is compulsory: 6×3=18**

- 25) Mention the characteristics of Interface.
- 26) Write note on Asymptotic notation.
- 27) What are string literals?
- 28) Write a note on If else structure.
- 29) Write a short note about sort ().
- 30) What are the difference between List and Dictionary?
- 31) What is the use of where clause? Give a Python statement by using where clause?
- 32) What is the role of DBA?
- 33) What will be the output of the following program?

```
str1 = ""
i = 1
while i<=5:
    print (str1 * i)
    i+=1
```

Part - IV**IV. Answer all the questions:****5×5=25**

- 34) a) Explain LEGB Rules with examples.
(OR)
b) Write the Pseudo code for selection sort Algorithm.
- 35) a) Explain input () and print () functions with examples.
(OR)
b) Explain the purpose of the following function.
(i) plt.xlabel (ii) plt.title (iii) plt.show()
(iv) plt.ylabel (v) plt.legend()
- 36) a) What is Nested Tuple? Explain with an example.
(OR)
b) Explain the different types of relationship mapping.
- 37) a) What are the components of SQL? Write the comments for each.
(OR)
b) Discuss the features of python over C++.
- 38) a) Explain the different set operations supported by python with suitable example.
(OR)
b) Explain each word of the following command..
python < file name. py > - <i> <C++ file name with .cpp extension>.

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Flash Revision Test - 2025
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Part - I

I. Choose the correct answer.

1. d) Parameters.
2. d) selectors.
3. b) F5
4. a) Time and space
5. c) ~~elseif~~
6. b) +
7. b) lambda
8. a) { } (OR) mere Attempt.
9. d) Loop
10. d) Indentation
11. a) SELECT
12. c) Carriage Return and Line Feed.
13. c) Boost
14. d) matplotlib
15. d) Count.

Marks:

Part - II

Constructors

16. Constructors are functions that build abstract datatype.

selectors

Selectors are functions that retrieve information from the datatype.

-2 marks

17. • A variable, with global scope, can be used anywhere in the program.
• It can be created by defining a variable outside the scope of any function or block.

-2 marks

18. 1. user defined functions 2. Built In functions
3. Lambda functions 4. Recursive functions

-2 marks

19. A Program Statement that causes a jump of control from one part of the program to another is called control structure.

-2 marks

20. The Process of creating object is called as Class instantiation.
Object name ^(OR) Class name - 2 marks
21. SQL - Structured Query language is a language used for accessing databases.
 MySQL is a database management system, like SQL server, Oracle, Informix, PostgreSQL - 2 marks.
22. Unique key constraint Primary key constraint.
 1. This constraint ensures that no two rows have the same value in the specified columns. This constraint defines a field as a primary key with helps to uniquely identify record.
 2. The unique constraint can be applied only on fields that have declared as NOT NULL. The primary key does not allow NULL value.
23. - 2 marks
 1. To automate certain tasks in a program
 2. Extracting information from a dataset
 3. Less code intensive as compared to traditional programming language.
 4. Can bring new functions to applications and give complex systems together.
 (Any ~~three~~ ^{two} points) - 2 marks
24. UTER
 CPE
- Part - III
25. • The class template specifies the interfaces to enable an object to be created and operated properly. - 2 marks
 • Any object's attributes and behavior is controlled by sending functions to the object. - 1 mark
26. Asymptotic notations are languages that use meaningful statements about time & space complexity. - 2 marks
 1. Big O 2. Big Ω 3. Big Θ - 1 mark

27. * A string literal is a sequence of characters surrounded by quotes
 * ^{Python} It supports single, double, triple quotes for a string
 * A character literal is a single character surrounded by single or double quotes
 * The value of with triple quote a ''' ''' is used to give multiline string literal

- 3 marks

28. The if... else statement provides control to check the true block as well as the false block.

- 2 marks

Syntax:
 if <condition>:
 Statements block 1
 else:

Statements block 2
 (OR) Example.

- 1 mark

29. Sort () function sorts the element in list. - 1 mark

Syntax:

List.sort(reverse = True/false, key = my func)

* Both arguments are optional

* If reverse is set as True, list sorting is in descending order. Ascending is default. - 2 marks

30. List

1. List is an ordered set of elements

Dictionary is a data structure that is used for matching one element (key) with another (value)

2. The index values can be used to access a particular element

In dictionary key represents index and key may be a number or a string.

3. Lists are used to look up a value

dictionary is used to take one value & look up another value.

Syntax (OR) Example
 any 3 ~~the~~ points.

- 3 marks

31. The where clause is used to extract only those records that fulfill a specific condition.
Example:

Cursor.execute("SELECT DISTINCT (Grade) FROM Student
Where gender = 'M'")

(or) any suitable example. - 3 marks

32. * Database Administrator or DBA is the one who manages the complete database management system.
* DBA takes care of the security of the DBMS; managing the license keys, managing user accounts and access.

- 3 marks

33.

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* *
* * *
* * . * *
* * * * *

- 3 marks

Part - IV

- 34) a) The LEGB rule is used to decide the order in which the scopes are to be ^{searched} ~~executed~~ for scope resolution.

Local (L) - Defined inside function/class
Enclosed (E) - " " Enclosing functions
Global (G) - " " at the upper most level
Built in (B) - Reserved names in built in functions.

With Explanation

5 marks

- b) Selection Sort Definition - 2 marks
Pseudo Code - 2 marks
Example - 2 marks

- 35) a) (i) input() function:

In python, input() function is used to accept data as input at runtime.

Syntax: Variable = input("prompt string")

1 1/2 marks

Any Suitable Example - 1 mark

(ii) Print() function

In Python, the print() function is used to display result on the screen.

Syntax:

print("string") print(variable)
print("string 1", variable, "string 2", variable,
"string 3")
(Any one syntax) [1 1/2 marks]

Suitable Example [1 mark]

- b) i) plt.xlabel - Specifies label for x axis - 1 mark
 ii) plt.ylabel - " " " " y axis - 1 mark
 iii) plt.title - " " title to the graph - 1 mark
 (iv) plt.show() - Display the plot - 1 mark
 (v) plt.legend() - Invoke the default legend - 1 mark

36) a)

In Python, a Tuple can be defined inside another Tuple called Nested Tuple. In nested Tuple, each Tuple is considered as an element. The for loop will be useful to access all the elements in a nested Tuple. [3 marks]

A Suitable Example [2 marks]

b)

1. one - to - one Relationship
2. " " " " many "
3. many - " " one "
4. " " " " many "

Explanation:

for each - 4 marks

37) a)

DML - Data Manipulation language

DDL - " Definition "

DCL - " Control "

TCL - Transaction " "

DQL - Data Query "

[2 marks]

DDL - CREATE, ALTER, DROP, TRUNCATE

DML - INSERT, UPDATE, DELETE

DCL - GRANT, REVOKE

TCL - COMMIT, ROLLBACK, SAVEPOINT

DQL - SELECT

(Explain) [3 marks]

- b) * Python Uses automatic Garbage Collection where as C++ does not.
- * C++ is a statically typed language, while python is a dynamically typed language.
- * python runs through an interpreter, while C++ is precompiled.
- * Python code tends to be 5 to 10 times shorter than the written in C++. In python, there is no need to declare types explicitly where as it should be done in C++.
- * In python a function, may accept an argument of any type, and return multiple values without any kind of declaration before hand. whereas C++ return statement can return only one value.
- (write any 5) 5 marks

- 38) a) SET Operations
- * Union
 - * Intersection
 - * Difference
 - * Symmetric Difference
- ~~Union~~ Definition & Example - 4 marks

- b) Python - keyword to execute the python program from command line 2 marks
- filename.py - Name of the python program to execute. 1 mark
- i - Input mode. 1 mark
- C++ file name - Name of C++ file without c++ extension to be compiled & executed. 1 mark

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